

REMARKS

The applicant has carefully considered the Office action dated July 12, 2004 and the references it cites. By way of this Response, claims 1-3, and 6-10 have been amended, claims 11, and 12 have been cancelled without prejudice to their further prosecution, and new claims 13 and 14 have been added. In view of the following, it is respectfully submitted that all pending claims are in condition for allowance and favorable reconsideration is respectfully requested.

As an initial matter, applicant notes that the specification has been amended to correct an obvious typographical error.

Turning to the objection to the declaration, the applicant respectfully requests reconsideration. Although the Office action contends that the declaration does not state whether the inventor is a sole inventor or a joint inventor, a review to the declaration reveals that the term "sole" appears in the signature block of the declaration. Accordingly, this objection is in error and must be withdrawn.

Turning to the claim objections, applicant notes that the spelling error in claim 9 identified in the Office action has been corrected. This amendment is not narrowing and, of course, does not give rise to estoppel under the doctrine of prosecution history estoppel or limit the scope of equivalents of the claim under the doctrine of equivalents.

Turning to the § 112, second paragraph, rejection of claim 6, applicant has deleted the term "low temperature." Accordingly, the § 112 rejection must be withdrawn. This broadening amendment does not give rise to estoppel

under the doctrine of prosecution history estoppel or limit the scope of equivalents of the claim under the doctrine of equivalents.

Turning to the drawing objections, new figures 1, 2A and 2B are being submitted which include the "Prior Art" label requested by the Examiner.

Turning to the art rejections, the Office action rejected claims 1-12 as being unpatentable over one or more of Yeh et al., U.S. Patent 6,294,834, Ma et al., U.S. Patent 5,939,753, Maeda et al., U.S. Patent 6,452,249, and Hsu et al., U.S. Patent 6,444,517. The applicant respectfully traverses these rejections.

For example, independent claim 1 recites a method for fabricating an RF semiconductor device comprising, among other things, forming a contact hole in the insulating layer within the active region without forming a contact hole within the element isolation region.

In contrast, Yeh does not disclose forming a contact hole and a contact plug in the insulating layer only within the active region (i.e., not within the element isolation region). Instead, as shown in Fig. 1 of Yeh, a multilevel interconnect layer 54 is formed in the insulating layer within the element isolation region. Accordingly, Yeh does not teach or suggest the method recited in claim 1.

Ma, the other reference cited against claim 1, do not overcome the deficiencies of the Yeh reference. Ma does not disclose forming a contact hole and a contact plug in the insulating layer only within the active region (i.e., without forming a contact hole in the element isolation region). Instead, as shown in Fig. 8 of Ma, a contact plug is formed in the insulating layer within the element isolation region, (i.e. on a titanium silicide region 99

overlying heavily doped region 89). Accordingly, Ma, whether considered alone or in combination with Yeh, does not teach or suggest the method recited in claim 1.

In view of the foregoing, it is respectfully submitted that claim 1 and all claims depending therefrom are patentable, and the rejections based on the Yeh and Ma reference must be withdrawn.

Independent claim 13 is also allowable. Claim 13 recites an RF semiconductor device comprising, among other things, first and second trenches defining an active region and at least one isolation region in a substrate; and a plurality of gate lines formed in the active region and oriented substantially perpendicularly to the longitudinal axes of the first and second trenches, wherein the gate lines do not extend along the longitudinal axes of the first and second trenches. None of the cited art teaches or suggests such a device. Accordingly, claim 13 must be allowed.

Independent claim 14 is also allowable. Among other things, claim 14 recites an RF semiconductor device comprising: first and second trenches defining an active region and at least one isolation region in the substrate, the first and second trenches being located on opposite sides of the active region; and at least two gate lines extending across the active region from the first trench to the second trench without passing above a center of either of the first and second trenches. None of the cited art teaches or suggests such a device. Accordingly, claim 14 must be allowed.

Before closing, the applicant notes that the following amendments are either broadening or clarifying and, thus, not necessary for patentability:

- a) the addition of the phrase “at least one” in the “forming at least one contact hole” clause of claim 1;
- b) the addition of the phrase “that is” in the “forming a conductive pattern layer” clause of claim 1;
- c) all of the amendments to claims 3 and 6; and
- d) the spelling correction to the term “further” in claim 9.

The amendments mentioned in the above list (a)-(d) were not necessary for patentability in that they are either broadening or are merely clarifying in that either (a) the amended claims are intended to state the same thing as the claim prior to amendment (i.e., to have the same scope both before and after the amendments) in a more easily understood or more conventional fashion, or (b) the amended claims are dependent on an allowable claim so that any refinement of the dependent claim was not required for patentability, but was made to clarify the claim. Consequently, the amendments not included in the above list (a)-(d) do not give rise to prosecution history estoppel or limit the scope of equivalents of the claims under the doctrine of equivalents.

If the Examiner is of the opinion that a telephone conference would expedite the prosecution of this case, the Examiner is invited to contact the undersigned at the number identified below.

Respectfully submitted,

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In the Drawings:

Please enter the enclosed new Figures 1, 2A and 2B. A marked up copy of the new drawings showing the differences from the originally submitted drawings are also enclosed.

FIG. 1
(PRIOR ART)

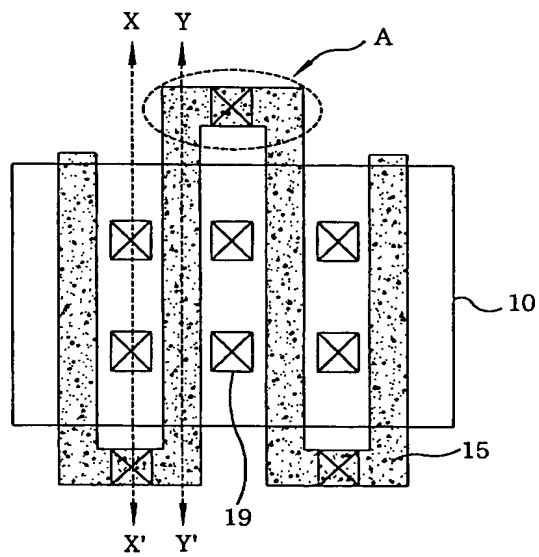


FIG. 2A
(PRIOR ART)

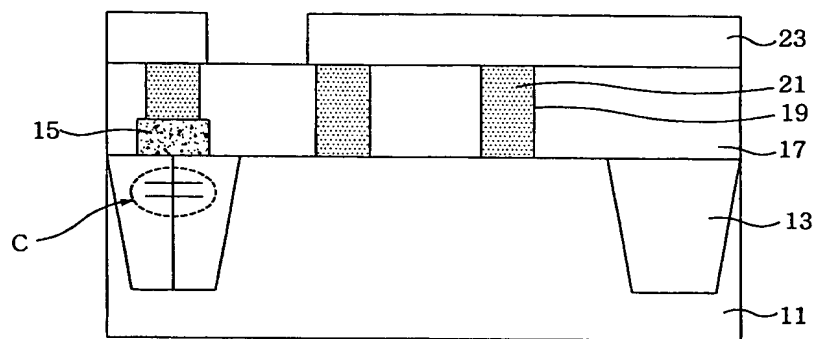


FIG. 2B
(PRIOR ART)

